



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/393,966 09/10/99 TAKEUCHI S 35.62449

005514 MMC1/0405
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EXAMINER

TREAS. J

ART UNIT

PAPER NUMBER

2872

DATE MAILED:

04/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/393,966	Applicant(s) TAKEUCHI ET AL.	
	Examiner Jared Treas	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-26 and 28-67 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-26 and 28-67 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 20) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Objections

1. In the previous Office Action, the examiner objected to claims as being in improper form because multiple dependent claims. Applicant's amendment filed 01/29/01 thereby overcomes such objections. As such an action on the merits of the previously objected claimed will follow.

Canceled Claims

2. The examiner notes that applicant has canceled claims 2 and 27.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 10, 40-42, 44, 47, 51, 52, 56, 57, 61, 62, 66 and 67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 10, 44 and 47, the limitation recited therein, "wherein the portions where the light-shielding ink does not protrude", renders the claim indefinite since it is unclear to the examiner what structural feature of the invention the applicant is claiming. As such appropriate correction is required.

Claims 10, 40-42, 44, 47, 51, 52, 56, 57, 61, 62, 66 and 67 recite the limitations "the portions", "the optical system", "the pattern", "the mask", "the light flux", "the wafer face" and "the projection optical system". There is insufficient antecedent basis for these limitations in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 13-16, 19-23, 26, 28, 37-42, 48-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook.

In figures 2 and 4, Cook discloses a diffractive optical element and method of making thereof, which comprises light shielding member having a characteristic which prevents light reflection and is composed of a thin layer of metal (chromium), a photosensitive material and a black non-reflective coating disposed on the photosensitive material. The light shielding member is disposed at a periphery of an effective area of the diffractive optical element. See column 3, lines 49-54.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-6, 11, 12, 17, 18, 24, 25, 29-36, 37/4, 37/11 and 37/17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook.

Cook discloses an optical element as described above but fails to specifically disclose specific optical characteristics of the non-reflective material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the shielding member out of various materials such as metal oxides, compounds of metal/silicon and ceramics, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the purpose of achieving a users desired needs by recognizing that the known materials control and/or manipulate light in different manners and using such materials which would best satisfy the users necessary requirements of the optical element.

9. Claims 7-10, 37/8, 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook in view of Official Notice.

Cook discloses an optical element as taught and suggested above, but is absent a teaching of providing alignment markings on the periphery of the optical element. Official Notice is taken that it is well known in the art to put alignment markings on the periphery of optical elements for the purpose of enabling alignment of the optical element with an optical system. It would have been obvious to one having ordinary skill in the art to put alignment markings on the periphery of the optical element of Cook for the purpose of enabling and assuring proper alignment of the optical element when

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being used in conjunction with an optical system or for directing light to a particular location.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents 5,285,314 issued to Futhey, discloses a reflective diffractive optical element which can be made of a single metallic material.

US Patent 5,684,631 issued to Greywall, discloses a reflective zone plate with alternating concentric black and reflective rings wherein the black or non-reflective rings are disposed at the periphery of the zone plate.

US Patent 4,070,097 issued to Gelber, discloses an optical element having a lens as a substrate and a first layer of metal disposed thereon and a layer of metal oxide being disposed on the metal layer.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared Treas whose telephone number is (703) 308 - 3171. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 - 7721.

Jared Treas


04/02/01



Cassandra Spyrou
Supervisory Patent Examiner
Technology Center 2800